

The Office Action objects to claims 3 and 4 under 37 C.F.R. §1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. The objection is respectfully traversed. As is stated above, claim 4 is canceled and claim 2 is amended in reply to the objection. Thus, claims 2 and 3 claim different subject matter. Accordingly, Applicants respectfully request the objection to claim 3 be withdrawn.

The Office Action rejects claims 1-5 under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 5,508,577 to Shiga et al. (Shiga) in view of JP 62247736 to Akira et al. (Akira). The rejection is respectfully traversed.

Applicants assert that neither Shiga nor Akira, whether considered alone or in combination, disclose or suggest an armature of a rotary electric machine, comprising an armature core composed of a plurality of laminated sheets through which the shaft is inserted in a plurality of slots and projections at the outer periphery thereof, wherein the armature core comprises a belt-like pressed anchoring portion disposed at a portion of the laminated sheets near the commutator for pressing a part of each of the in-slot portions that corresponds to the portion of the laminated sheets to the armature core more strongly than other parts of the in-slot portions. By pressing a part of each of the in-slot portions to the armature core, the conductor segments are prevented from axially shifting relative to the armature core at the pressed portion (p. 9, lines 7-12 of the specification).

In addition to the above-identified deficiency, the Office Action admits that Shiga does not disclose an anchoring portion that comprises a belt-like pressed portion of the armature core, as well as additional features recited in the dependent claims.

To overcome the admitted deficiencies, the Office Action combines Akira with Shiga and alleges that such combination renders the subject matter of the claims obvious. However, even were such a combination made, as stated above, neither Shiga nor Akira discloses or suggests an armature core that comprises a belt-like pressed anchoring portion disposed at a

portion of the laminated sheets near the commutator for pressing a part of each of the in-slot portions that correspond to the portion of the laminated sheets to the armature core more strongly than other parts of the in-slot portions.

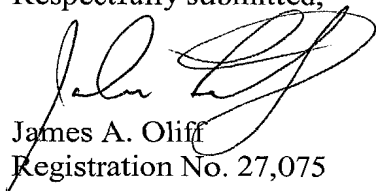
Rather, Akira merely discloses a flange portion 1A that is similar to the plurality of claw-like projections 21 of the instant application and not a belt-like pressed anchoring portion as recited in the claims. Furthermore, the English-language Abstract of Akira is silent as to providing either of a belt-like pressed portion, or the additional feature of the relative diameters of the armature core as recited in claim 5.

Applicants also assert that there is no suggestion or motivation to combine the references as neither Akira nor Shiga address the problem being resolved in the instant application. For example, in Shiga, the problem being addressed is the disablement of electric motors used for high speed rotation by heavy mechanical loads caused by burdens on a molded resin cylinder which holds the coils composing the contact face for the metal brush. The burdens on the molded resin cylinder are due to the centrifugal force developed on the commutator face of the coil, heavy thermal loads caused by the effect of the resisting heat generated on the commutator face and the frictional heat generated on the metal brush and high speed rotation. Akira attempts to enable an armature to form an anchor portion to prevent a coil from jumping out easily, by pressing and slewing the outside circumfered surface of the armature core with a knurling tool having a sharp, uneven section. Thus, Akira merely bends and knurls an outside circumferential surface of the armature core to form a flange that holds the coils in place. Accordingly, neither Shiga nor Akira address the problem being resolved in the instant application of providing an armature that has a flat commutator surface. Thus, Applicants respectfully request the rejection of claims 1-3 and 5 under 35 U.S.C. §103(a) be withdrawn.

In view of the foregoing, reconsideration of the application is requested. It is submitted that the claims as presented herein patentably distinguish over the applied references and fully meet the requirements of 35 U.S.C. §112. Accordingly, allowance of claims 1-3 and 5 and rejoinder and allowance of claim 6 is respectfully solicited.

Should the Examiner believe anything further is desirable in order to place the application in better condition for allowance, he is requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

John W. Fitzpatrick
Registration No. 41,018

JAO:JWF/mmc

Date: October 31, 2002

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461
--

APPENDIX

Changes to Claims:

Claim 4 is canceled.

The following is a marked-up version of the amended claim:

1. (~~Thrice~~Twice Amended) An armature of a rotary electric machine,
comprising:
 - a rotary shaft;
 - an armature core composed of a plurality of laminated sheets through which said shaft is inserted and a plurality of slots and projections at the outer periphery thereof;
 - an armature coil composed of a plurality of conductor segments having in-slot portions being respectively inserted into said slots; and
 - a commutator formed by a portion of said armature coil to be integrated with said armature coil at an end thereof, wherein said armature core comprises a belt-like pressed anchoring portion disposed at a portion of said laminated sheets near said commutator for pressing ~~anchoring~~ a part of each of said in-slot portions that correspond to said portion of said laminated sheets to said armature core more strongly than other parts of said in-slot portions.
2. (~~Twice~~ Amended) The armature according to claim ~~21~~, wherein said anchoring portion is disposed at least at ~~a space corresponding to one of said laminated sheets~~ apart from said end - distance less than half of the length of said armature core from an end thereof adjacent to said commutator.
5. (Amended) The armature according to claim ~~41~~, wherein said pressed portion has an outside diameter 0.08 % - 0.6 % less than the outside diameter of the rest of the said armature core.